

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

37. (Previously Amended) A manufacturing process for an organic EL element having a stacked structure including a hole injecting and transporting layer and a light-emitting layer formed within a partitioning member which is divided into individual pixel areas, the method comprising:

forming an anode layer;

forming the partitioning member above a substrate, the partitioning member having openings over at least a portion of the anode layer, the openings corresponding to pixel areas;

forming a hole injecting and transporting layer by independently filling each of the openings with a composition for the hole injecting and transporting layer using an ink-jet head, the composition comprising (1) a conductive material containing at least a lubricant, polyethylene dioxythiophene, and polystyrene sulfonic acid, and (2) a solvent;

drying the composition filled in the openings to form the hole injecting and transporting layer; and

independently filling each of the openings with a light-emitting layer composition using an ink-jet head to form the light-emitting layer;

forming a cathode layer over the light-emitting layer.

38. (Previously Amended) The manufacturing process of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

39. (Previously Added) The manufacturing process of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps.

40. (Previously Added) The manufacturing process of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a surface tension of 20 to 70 dyne/cm.

41. (Previously Amended) The manufacturing process of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

42. (Previously Added) The manufacturing process of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm.

43. (Previously Amended) The manufacturing process of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

44. (Previously Amended) The manufacturing process of claim 37, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

45. (Previously Added) The manufacturing process according to claim 37, wherein the conductive material is present in a dissolved or dispersed state in the solvent and the solvent is a polar solvent.

46. (Previously Added) The manufacturing process according to claim 45, wherein the polar solvent is a mixed solvent of water and a lower alcohol.

47. (Previously Added) The manufacturing process according to claim 46, wherein the lower alcohol is methanol or ethanol.

48. (Previously Amended) The manufacturing process according to claim 45, wherein the polar solvent is a mixed solvent of water and at least one solvent selected from the group consisting of mono and dialkyl ethers of ethylene glycol.

49. (Previously Added) The manufacturing process according to claim 48, wherein the at least one solvent selected from the group is ethoxy ethanol.

50. (Cancelled)

51. (Currently Amended) The manufacturing process according to claim [50] 37, wherein the lubricant is glycerin.

52. (Cancelled)

53. (Currently Amended) The [organic EL element] manufacturing process of claim [52] 37, wherein a film thickness of the hole injecting and transporting layer is 0.1 μ m or less.

54. (Currently Amended) The [organic EL element] manufacturing process of claim [52] 53, wherein a film resistance of the hole injecting and transporting layer is in the range 0.5 x 10⁹ Ω /m² to 5 x 10⁹ Ω /m².

55. (Cancelled)

56. (Previously Amended) A manufacturing process for an organic EL element having a stacked structure including a hole injecting and transporting layer and a light-emitting layer formed within a partitioning member which is divided into individual pixel areas, the method comprising:

forming the partitioning member above the substrate, the partitioning member having openings corresponding to pixel areas;

independently filling each of the openings with a composition for the hole injecting and transporting layer using an ink-jet recording head, the composition comprising at least a material for the hole injecting and transporting layer, a lubricant, and a polar solvent; and

drying the composition filled in the openings to form the hole injecting and transporting layer.

57. – 61. (Cancelled)

62. (Previously Amended) A method for manufacturing an electroluminescent display, the method comprising:

(1) manufacturing a stacked EL element, wherein the step of manufacturing the stacked EL element comprises:

forming an anode layer;

forming a partitioning member above a substrate, the partitioning member having openings over at least a portion of the anode layer, the openings corresponding to pixel areas;

independently filling each of the openings with a composition for a hole injecting and transporting layer using an ink-jet head, the composition comprising (a) a conductive material containing at least a lubricant, polyethylene dioxythiophene and polystyrene sulfonic acid, and (b) a solvent;

drying the composition filled in the openings to form the hole injecting and transporting layer; and

independently filling each of the openings with a light-emitting layer composition using an ink-jet head to form the light-emitting layer;

forming a cathode layer over the light-emitting layer; and

- (2) incorporating the stacked EL element into the electroluminescent display.

63. (Previously Amended) A method for manufacturing an electroluminescent display, the method comprising:

- (1) manufacturing a stacked EL element, wherein the step of manufacturing the stacked EL element comprises:

forming an anode layer;

forming a partitioning member above a substrate, the partitioning member having openings over at least a portion of the anode layer, the openings corresponding to pixel areas;

independently filling each of the openings with a composition for a hole injecting and transporting layer using an ink-jet head, the composition comprising at least a material for the hole injecting and transporting layer, a lubricant, and a polar solvent;

drying the composition filled in the openings to form the hole injecting and transporting layer; and

independently filling each of the openings with a light-emitting layer composition using an ink-jet head to form the light-emitting layer;

forming a cathode layer over the light-emitting layer; and

- (2) incorporating the stacked EL element into the electroluminescent display.

64. (Previously Added) A manufacturing process according to claim 37, wherein the lubricant is diethylene glycol.

65. (Previously Added) A manufacturing process according to claim 56, wherein the lubricant is diethylene glycol.

66. (Previously Added) A method for manufacturing according to claim 62, wherein the lubricant is diethylene glycol.

67. (Previously Added) A method for manufacturing according to claim 63, wherein the lubricant is diethylene glycol.

68. (Previously Added) The manufacturing process of claim 56, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

69. (Previously Added) The manufacturing process of claim 56, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps.

70. (Previously Added) The manufacturing process of claim 56, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a surface tension of 20 to 70 dyne/cm.

71. (Previously Added) The manufacturing process of claim 56, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

72. (Previously Added) The manufacturing process of claim 56, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm.

73. (Previously Added) The manufacturing process of claim 56, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

74. (Previously Added) The manufacturing process of claim 56, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

75. (Previously Added) The manufacturing process according to claim 56, wherein the conductive material is present in a dissolved or dispersed state in the solvent and the solvent is a polar solvent.

76. (Previously Added) The manufacturing process according to claim 75, wherein the polar solvent is a mixed solvent of water and a lower alcohol.

77. (Previously Added) The manufacturing process according to claim 76, wherein the lower alcohol is methanol or ethanol.

78. (Previously Added) The manufacturing process according to claim 75, wherein the polar solvent is a mixed solvent of water and at least one solvent selected from the group consisting of mono and dialkyl ethers of ethylene glycol.

79. (Previously Added) The manufacturing process according to claim 78, wherein the at least one solvent selected from the group is ethoxy ethanol.

80. (Previously Added) The manufacturing process according to claim 56, wherein the lubricant is glycerin.

81. (Previously Added) The manufacturing process according to claim 56, wherein a film thickness of the hole injecting and transporting layer is 0.1 μm or less.

82. (Previously Added) The manufacturing process according to claim 56, wherein a film resistance of the hole injecting and transporting layer is in the range $0.5 \times 10^9 \Omega/\text{m}^2$ to $5 \times 10^9 \Omega/\text{m}^2$.

83. (Previously Added) The manufacturing process of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170° .

84. (Previously Added) The manufacturing process of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps.

85. (Previously Added) The manufacturing process of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a surface tension of 20 to 70 dyne/cm.

86. (Previously Added) The method of manufacturing of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170° .

87. (Previously Added) The method of manufacturing of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm.

88. (Previously Added) The method of manufacturing of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

89. (Previously Added) The method of manufacturing of claim 62, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

90. (Previously Added) The method of manufacturing according to claim 62, wherein the conductive material is present in a dissolved or dispersed state in the solvent and the solvent is a polar solvent.

91. (Previously Added) The method of manufacturing according to claim 90, wherein the polar solvent is a mixed solvent of water and a lower alcohol.

92. (Previously Added) The method of manufacturing according to claim 91, wherein the lower alcohol is methanol or ethanol.

93. (Previously Added) The method of manufacturing according to claim 90, wherein the polar solvent is a mixed solvent of water and at least one solvent selected from the group consisting of mono and dialkyl ethers of ethylene glycol.

94. (Previously Added) The method of manufacturing according to claim 93, wherein the at least one solvent selected from the group is ethoxy ethanol.

95. (Previously Added) The method of manufacturing according to claim 62, wherein the lubricant is glycerin.

96. (Previously Added) The method of manufacturing according to claim 62, wherein a film thickness of the hole injecting and transporting layer is 0.1 μm or less.

97. (Previously Added) The method of manufacturing according to claim 62, wherein a film resistance of the hole injecting and transporting layer is in the range $0.5 \times 10^9 \Omega/\text{m}^2$ to $5 \times 10^9 \Omega/\text{m}^2$.

98. (Previously Added) The method of manufacturing of claim 63, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170° .

99. (Previously Added) The method of manufacturing of claim 63, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps.

100. (Previously Added) The method of manufacturing of claim 63, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a surface tension of 20 to 70 dyne/cm.

101. (Previously Added) The method of manufacturing of claim 63, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170° .

102. (Previously Added) The method of manufacturing of claim 63, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm.

103. (Previously Added) The method of manufacturing of claim 63, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

104. (Previously Added) The method of manufacturing of claim 63, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

105. (Previously Added) The method of manufacturing according to claim 63, wherein the conductive material is present in a dissolved or dispersed state in the solvent and the solvent is a polar solvent.

106. (Previously Added) The method of manufacturing according to claim 105, wherein the polar solvent is a mixed solvent of water and a lower alcohol.

107. (Previously Added) The method of manufacturing according to claim 106, wherein the lower alcohol is methanol or ethanol.

108. (Previously Added) The method of manufacturing according to claim 105, wherein the polar solvent is a mixed solvent of water and at least one solvent selected from the group consisting of mono and dialkyl ethers of ethylene glycol.

109. (Previously Added) The method of manufacturing according to claim 108, wherein the at least one solvent selected from the group is ethoxy ethanol.

110. (Previously Added) The method of manufacturing according to claim 63, wherein the lubricant is glycerin.

111. (Previously Added) The method of manufacturing according to claim 63, wherein a film thickness of the hole injecting and transporting layer is $0.1\mu\text{m}$ or less.

112. (Previously Added) The method of manufacturing according to claim 63, wherein a film resistance of the hole injecting and transporting layer is in the range $0.5 \times 10^9 \Omega/\text{m}^2$ to $5 \times 10^9 \Omega/\text{m}^2$.

113. (Previously Added) An organic EL element, having a stacked structure including a hole injecting and transporting layer and a light-emitting layer formed within a partitioning member which is divided into individual pixel areas, manufactured by a manufacturing process, comprising:

forming an anode layer;

forming the partitioning member above a substrate, the partitioning member having openings over at least a portion of the anode layer, the openings corresponding to pixel areas;

forming a hole injecting and transporting layer by independently filling each of the openings with a composition for the hole injecting and transporting layer using an ink-jet head, the composition comprising (1) a conductive material containing at least a lubricant, polyethylene dioxythiophene, and polystyrene sulfonic acid, and (2) a solvent;

drying the composition filled in the openings to form the hole injecting and transporting layer; and

independently filling each of the openings with a light-emitting layer composition using an ink-jet head to form the light emitting layer;

forming a cathode layer over the light-emitting layer.

114. (Currently Amended) The [change to] organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

115. (Currently Amended) The [change to] organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps.

116. (Currently Amended) The [change to] organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a surface tension of 20 to 70 dyne/cm.

117. (Currently Amended) The [change to] organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

118. (Currently Amended) The [change to] organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, and wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm.

119. (Currently Amended) The [change to] organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

120. (Currently Amended) The [change to] organic EL element of claim 113, wherein the conductive material is contained in an amount of 0.01 wt% to 10 wt% of the composition, wherein the composition has a viscosity of 1 to 20 cps and a surface tension of 20 to 70 dyne/cm, and wherein a contact angle between the composition and a material making up an ink discharge nozzle face of the ink-jet head is within the range of 30° to 170°.

121. (Currently Amended) The [change to] organic EL element according to claim 113, wherein the conductive material is present in a dissolved or dispersed state in the solvent and the solvent is a polar solvent.

122. (Currently Amended) The [change to] organic EL element according to claim 121, wherein the polar solvent is a mixed solvent of water and a lower alcohol.

123. (Currently Amended) The [change to] organic EL element according to claim 122, wherein the lower alcohol is methanol or ethanol.

124. (Currently Amended) The [change to] organic EL element according to claim 121, wherein the polar solvent is a mixed solvent of water and at least one solvent selected from the group consisting of mono and dialkyl ethers of ethylene glycol.

125. (Currently Amended) The [change to] organic EL element according to claim 124, wherein the at least one solvent selected from the group is ethoxy ethanol.

126. (Currently Amended) The [change to] organic EL element according to claim 113, wherein the lubricant is glycerin.

127. (Currently Amended) The [change to] organic EL element according to claim 113, wherein a film thickness of the hole injecting and transporting layer is 0.1 μ .